



MEMORANDUM

Missouri Department of Transportation Design General Headquarters

TO: All General Headquarters and District Offices

FROM: Diane Heckemeyer
State Design Engineer

DATE: June 1, 2003

SUBJECT: Design
Development Manual Letter No. 2, 2003
Project Development Manual Revisions

Questions concerning the Project Development Manual revisions should be directed to General Headquarters, Design Standards Section, Dan Tschirgi (573) 526-2924 or Bruce Green (573) 751-9248.

NOTE	EXPLANATION
1	The following revisions are effective June 1, 2003.

ITEM	DESCRIPTION OF REVISION
Volume I Table of Contents	Revision dates changed for appropriate sections.
Figure 1-01.2	The D-2 Standard Plans Index has been removed from the list of standard forms. The D-2 Sheet will no longer function as a checklist for the Standard Drawings used in a project. The checklist column will be removed and the D-2 will become a Table of Contents for the <i>Missouri Standard Plans for Highway Construction</i> . The D-2 Sheet will no longer be included among the standard plans as of October 1, 2003. The standard plan revision is scheduled for issuance on July 1, 2003.
Section 1-02	Subsection 1-02.5(1)(a) has been revised to have copies of the signed letter approving non-major scope changes sent to GHQ Design and GHQ Transportation Planning for documentation purposes.
Section 1-03	Subsection 1-03.7 has been revised to address the necessity of public agency agreements. A list has been added which identifies areas of shared responsibility that necessitate a municipal, county, or township agreement.
Chapter II Table of Contents	Made revisions to correspond to Section revisions.

ITEM	DESCRIPTION OF REVISION
Figure 2-02.2	The Request for Environmental Services has been revised to change the tree clearing procedures when there are concerns for the endangered Indiana Bat. The tree cutting restrictions are being removed; however, each project will be screened by the Environmental Section to determine if restrictions are necessary due to nearby populations of the bats. The remainder of this figure and corresponding design form will be substantially revised in the near future.
Figure 2-03.2	The guidelines for preparing public hearing location sketches for Commission location and/or design approval have been revised. More specific requirements are listed to provide more clarity and consistency in the exhibits. Only microstation files using the template seed files should be submitted Several new examples are included in the figure.
Section 4-03	Subsection 4-03.7 has been revised with a better description of the coordinates to show on the coordinate points sheet in the plans. State Plane coordinates are required to be used by statute. Subsection 4-03.9 has been revised with guidance for including information on culvert section sheets since the D-2 sheet will not indicate applicable plans. References to the D-2 sheet have been removed from Subsections 4-03.11, 4-03.17(1)(g) and 4-03.19.
Figure 4-03.5	The “Give ‘em a Brake” sign has been removed, and the “Drive Smart” sign has been added to the list of non-contractual cost items.
Section 4-04	Criteria for use and design of three-strand guard cable has been moved into Subsection 4-04.5(2) from Subsection 6-05.12 and substantially revised. Please read carefully.
Figure 4-04.7	New Sheets 3, 4, and 5 have been added to show recommended three-strand guard cable placement in non-level medians.
Section 4-09	New guidance for approved crashworthy end terminals has been added as Subsection 4-09.7(3). Criteria for use of the bullnose guardrail system has been revised and renumbered to Subsection 4-09.7(4). The bullnose system should not be erected between twin bridges. New guidance for anchored in backslope guardrail has been added as Subsection 4-09.7(5). Please read these Subsections carefully. Also, a statement in Subsection 4-09.6 regarding compensation for fencing has been removed, because it conflicted with the Right of Way Manual.
Figure 4-10.1	The sample title sheet has been revised to show a line for the Contract ID in the title block. The Microstation border files on computer servers are scheduled for revision on June 20, 2003.
Volume II Table of Contents	Revision dates changed for appropriate sections.

Section 6-05	Criteria for three-strand guard cable has been moved from Subsection 6-05.12 to Subsection 4-04.5(2).
Section 7-02	The Commission policy for reimbursement of property owners for service line adjustment on MHTC right of way has been replaced with new PDM guidance. Service line work adjustments should be done under MoDOT contract, in order to pay for the work with competitively bid prices.
Figure 7-02.9	The list of utility companies that do not own the service lines from their main lines has been updated.
Chapter VIII Table of Contents	Made revisions to correspond to Section revisions.
Section 8-04	In Subsection 8-04.2(5) the "Give 'em a Brake" sign has been replaced with the new "Drive Smart" sign. The installation description is in the supplemental revision JSP.
Figure 8-04.23	Notes 1 and 3 in this figure have been revised to be more specific regarding use of epoxy pavement marking. Traffic control for proper curing time of epoxy must be feasible or else other material must be used.
Chapter IX Table of Contents	Made revisions to correspond to Section revisions.
Section 9-03	Substantial revisions have been made. Please read carefully. The method of calculating roughness coefficients for grass-lined channels has been changed to comply with FHWA recommended procedures. Also, information has been added on computing gradually varied flow in open channels. The revisions to Section 9-03 and 9-04 may result in more frequent application of rock lining of ditches.
Figures 9-03.1 through 9-03.56	All figures representing solution to flow in grass lined channels have been revised according to the new calculation method in Section 9-03. Figures 9-03.39 to 9-03.47 have been revised, and figures 9-03.48 to 9-03.55 are new. Figure 9-03.56 has been added to assist with the solution of Manning's equation for part full uniform flow in circular pipes. Figures 9-03.1 to 9-03.38 have not been revised, but were recreated to be more readable.
Section 9-04	The method of determining acceptable erosion control in channels has been changed from permissible velocity to permissible shear stress in order to comply with FHWA recommended procedures. Type G and Type H erosion control blankets have been incorporated. Also, additional information was added on energy dissipation at culvert outlets.
Figures 9-04.1 through 9-04.3	Figures 9-04.1 and 9-04.2 have been recreated to be clearer. Table 9-04.1 in Section 9-04 has replaced figure 9-04.3, so this figure has been removed.
Figure 9-10.2	Sheets 7 and 8 have been added to this figure to provide guidance for the culvert section sheets. This revision is being made along with the conversion of the D-2 sheet to a Table of Contents.

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D-2BS	The D-2BS sheet in the Microstation design forms has been revised to add INSTALLING “DRIVE SMART” and remove INSTALLING “GIVE EM A BRAKE”. The microstation form has been previously updated on computer servers with a June 1, 2003 effective date.
Specifications for Computer Deliverable Contract Plans	General requirement number 3 in this document has been revised to state that on all drawings, the border shall be centered on the printed page to ensure that no part is cut off during reproduction. This revision is consistent with Subsection 4-03.1(1).

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